14. Lake Murray

(Lexington, Newberry, Richland and Saluda Counties)

1. Problem plant species

   Hydrilla
   Illinois pondweed
   Water Primrose

2. Management objectives

   a. Maintain reduced hydrilla and Illinois pondweed growth throughout the lake to minimize its spread within the lake, help prevent its spread to adjacent public waters, and minimize adverse impacts to drinking water withdrawals and public use and access.

   b. Monitor water primrose growth and consider control options if impacts are greater than anticipated.

   c. Maintain diverse aquatic plant community through selective application of control methods and introduction of desirable native plant species.

3. Selected control method

   a. Triploid grass carp stocked in 2003 substantially reduced hydrilla coverage in Lake Murray during 2003-2005. Consequently, no additional grass carp stockings are planned for these areas in 2006. However, hydrilla populations and potential regrowth will be carefully monitored and in the event that survey results and regrowth warrant, the Aquatic Plant Management Council may reconsider the need for additional grass carp.

   b. Mechanical harvester – short-term control in selected areas to provide public access and clear areas around municipal water intakes.

   c. Aquatic herbicides - short-term control in selected areas to provide public access and clear areas around municipal water intakes.

Problem Species	Control Agents
Hydrilla	Chelated copper(Nautique)
Water primrose	Renovate 3*

*All herbicides which would be effective on this species have an irrigation restriction. All treatments would require coordination and notification of property owners.

4. Area to which control is to be applied

   a. If needed, release triploid grass carp in areas of the lake with greatest hydrilla growth.

b. Use mechanical harvesters or aquatic herbicides to provide immediate short-term control at high priority public access points, such as boat ramps and park sites, and municipal water intakes.

5. Rate of control agent to be applied

   a. If hydrilla acreage in 2006 warrants, additional grass carp may be stocked at the rate of 15 fish per vegetated acre following Council approval.

   b. Harvest acreage as needed to provide public use, access and clear areas around municipal water intakes.

   c. Apply aquatic herbicides to provide immediate short-term control at high priority public access points and municipal water intakes.
   Chelated copper - up to 1 ppm

6. Method of application of control agent

   a. Triploid grass carp - See section 3 above.

   b. Use mechanical harvester as designed.

   c. All agents to be applied when plants are actively growing.

7. Timing and sequence of control application

   a. If hydrilla acreage in 2006 warrants, additional grass carp may be stocked following Council approval.

   b. Harvest aquatic growth as it becomes problematic; multiple applications are likely.

   c. Apply herbicides to aquatic vegetation as it becomes problematic.

8. Other control application specifications

   a. If needed, all sterile grass carp will be a minimum of 12 inches in length. All sterile grass carp shipments for Lake Murray will be examined by the SCDNR for sterility, size, and condition at the Campbell Fish Hatchery in Columbia prior to stocking in the lake.

   b. Harvested vegetation must be removed from the lake and deposited on high ground. The harvesting process must minimize adverse impacts to fish.

   c. Control by Residential/Commercial Interests:

   This plan is designed to provide relief from noxious aquatic vegetation for the public at large. Private entities such as lake-front residents and commercial interests may have site specific concerns not addressed immediately by the use of grass carp or mechanical harvesters at public ac-

cess areas. **Residential and commercial interests may remove nuisance aquatic vegetation manually or by use of mechanical harvesting devices.** Of the three major control methods the following conditions apply.

1) Mechanical harvesters – Commercial aquatic plant harvesting services may be hired to remove hydrilla and Illinois pondweed from areas adjacent to residential and commercial property after notification of SCE&G. Harvesting precautions as stated in item b. above must be adhered to.

2) Aquatic herbicides – SCE&G opposes regular or general application of herbicides in Lake Murray, therefore, aquatic herbicides may not be applied in the lake by lakefront property owners.

3) Sterile grass carp - A sufficient number of grass carp are being stocked by SCDNR to control nuisance aquatic vegetation. Stocking additional grass carp in Lake Murray without written consent by the SCDNR is prohibited.

9. Entity to apply control agent

   a. Triploid grass carp - Commercial supplier with supervision by the SCDNR.

   b. Mechanical harvester – Commercial harvester under supervision of SCE&G at park sites and public boat ramps; private marina operators to contract for application at commercial boat ramps.

   c. Aquatic herbicides - Commercial applicator under supervision by the SCDNR.

10. Estimated cost of control operations

   a. Triploid grass carp - None anticipated

   b. Mechanical harvester - $500-1000/acre

   c. Aquatic herbicides - $275 / acre

11. Potential sources of funding

   a. Triploid grass carp if needed.

      S.C. Electric and Gas Company, Lexington and Richland Counties 50%
      U.S. Army Corps of Engineers 0%
      S. C. Department of Natural Resources 50%

   b. Mechanical harvester

      S.C. Electric and Gas Company, Commercial marina operators, and residential property owners.

c Aquatic herbicides

S.C. Electric and Gas Company, Lexington and Richland Counties 50%
U.S. Army Corps of Engineers 0%
S. C. Department of Natural Resources 50%

(Percentage of match subject to change based on availability of Federal and State funding.)

12. Long term management strategy

a. Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment through the use of federal and state approved control methods.

b. Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.

c. Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

d. Improve public awareness and understanding of aquatic plant management activities through the maintenance of the Lake Murray Aquatic Plant Management web site. The web site includes up-to-date information on annual management plans, dates and locations of current and historical control operations, locations of habitat enhancement activities, and other pertinent information.

e. Periodically revise the management strategy and specific control sites as new environmental data and control agents and techniques become available, and public use patterns change.

f. Water primrose - Water primrose, a shoreline plant, became problematic in the upper portion of the lake last year. The two-year drawdown exposed a lot of unvegetated shoreline where water primrose quickly spread and re-established at the 345-348 foot contour level. While this plant can be invasive and cause localized problems, it has been in the lake for decades and is typically not a threat to general public access and use of the waterway. Based on past experience, it is expected that most of the plants that are rooted in deep water will not survive after the lake level returns to full pool. Therefore, there are no plans to control its growth this year. However, the SCDNR and SCE&G will monitor water primrose growth and consider control options if impacts are greater than anticipated.

Lake Murray
Shull Island
Lunch Island
1.0 0 1.0 2.0 3.0 miles